



Duration

Location

Supplies

Standards

THE WEATHER GAME

Grade Level/Range: Grades K-5

OBJECTIVE

- Students will understand that farm production depends on weather conditions and that activities on a farm change with the seasons.
- Students will connect food purchased at grocery stores to the farms that grow them.

Game Instructions

Have students sit on a mat while listening to directions. We are going to play a weather game called HURRICANE

The presenter asks, “Does anyone know what a hurricane is”?

We look for key answers...a big storm with high winds and rain.

What would happen to the pile of leaves I raked in a hurricane? They would blow away...or change places. That's what students will do during this game.

Presenter then asks, do I have a mat to sit on? No...But during this game I am going to try to be sneaky and take one of your mats.

Before we start, here is an important question.

Why would we play a weather game at a farm?

Do you think weather is important on a farm?

Weather plays an extremely important role during farm activities...The weather is your boss. Everyone pretend you are a serious, stern boss. Our presenter asks students to put your hand on your hip, point your finger at me and say (in a strict voice), DO YOUR WORK!

If you are a farmer, the weather is your boss!

Planting in Spring

We wait for the weather to become warm enough for us to plant seeds. The temperature of the soil needs to be warm for the seeds to sprout and grow. Spring tree blossoms tell us it's time to put bee hives into the orchard for pollination.

Hay in Summer

If we are trying to make hay we need three days in a row of hot, dry weather. Rain occurring while cut hay is lying in the field causes both yield and quality losses that reduce the value of the crop as an animal feed and a marketable commodity.

Hay can also get dusty and moldy and become unsuitable to feed to our animals. Dusty, moldy hay can cause severe respiratory problems. Everybody coughs...pretend you ate moldy hay. Rain damage is to be avoided or minimized as much as possible. So... the weather tells us when to cut the hay.

Fall Harvest

We harvest pumpkins and corn before the frost. Mature pumpkins can withstand a light frost that kills the foliage and leaves the fruit intact. However, extended exposure to frost or hard frost can damage the



pumpkins, leaving them vulnerable to fungal or bacterial problems that can result in rapid decomposition.

The amount of damage to corn from a frost or killing freeze depends largely upon two factors: (1) How cold it gets and for how many hours; and (2) The plant's stage of development.

Winter is time for planning for the next year.

The hay may be in the barn and the crops may be out of the fields, but there are still plenty of chores to be done after harvest and in preparation for the next growing season. For livestock farmers, the winter may even mean a busier time of work as animals never take a day off and newborns may be arriving any day.

Throughout the seasons...the weather is your boss!

Are you ready to play the game?

Everyone stand on your mat.

Presenter (caller) stands in the middle of the circle... I am going to call out a delicious, healthy product grown on a farm. (Choose one-apples, carrots...ice cream)?

When I call out my food choice...everyone should change places. There are only enough mats out for all but one person to have a mat. If the caller steals a mat, a new person will be in the middle of the circle and they call out the next food.

Note-the game works best when students try to get a new mat to stand on. If students want to be in the middle, teachers should intervene and pick individual students to be the caller.

Time-30-40 minutes

Teachers:

Our weather game is a fun, exciting game for students to play and to connect weather to our food source. Production of all agricultural commodities is vulnerable to **direct impacts** (from changes in crop and livestock development and yield due to changing climate conditions and extreme weather events) and **indirect impacts** (through increasing pressures from pests and pathogens that will benefit from a changing climate).

Students can connect local farm impact of weather conditions to global climate conditions, concerns and predictions.

Many independent lines of evidence demonstrate that the world is warming and that human activity is the primary cause. Carbon dioxide is produced when humans burn gasoline, natural gas, and coal to produce electricity and drive cars, trains, ships, and aircraft. This carbon dioxide is the major factor responsible for warming the atmosphere. Other changes flow from global warming, including melting of

snow and ice, rising sea level, and increases in some types of extreme weather, such as extreme heat and heavy downpours. **Climate change** is a serious, complex topic that will affect generations to come.

VOCABULARY

EXTENSIONS

TEACHER RESOURCES

EPA Climate impact on agriculture

<https://www.epa.gov/climate-impacts/climate-impacts-agriculture-and-food-supply>

NCSU effects of Climate change on agriculture

<http://climate.ncsu.edu/edu/k12/ClimateChange-Ag>

Global Climate Change-agriculture

<http://nca2014.globalchange.gov/report/sectors/agriculture#intro-section-2>

National Center for Science Education

<https://ncse.com/climate>

THE WEATHER GAME

Teachers: We create an opportunity for students to compare farm life from the past to a farms contribution to our community today.

Next Generation Science Standards

Interdependent Relationships in Ecosystems: Animals, Plants, and Their Environment

K-LS1-1., K-ESS2-2., K-ESS3-1. K-ESS3-3.

Weather and Climate,

K-PS3-1. K-PS3-2. K-ESS2-1. K-ESS3-2.

From Molecules to Organisms: Structures and Processes

1-LS1

Interdependent Relationships in Ecosystems

2-LS2-1. 2-LS2-2. 2-LS4-1

Earth and Human Activity

K-ESS3-1. K-ESS3-2. K-ESS3-3.

Next Generation Science Standards: <http://www.nextgenscience.org>